

Science Processing & Info. Management

JPL

Overall Objective

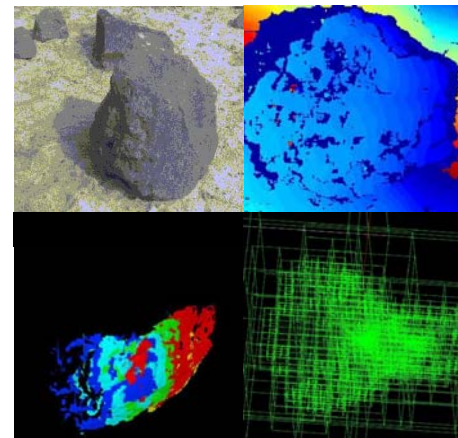
Develop new technology to enable more effective use of the available bandwidth for returning instrument data and develop novel ways of processing instrument data once it has been returned to earth to decrease data processing turnaround time and reduce the cost of mission operations.

Goals & Products

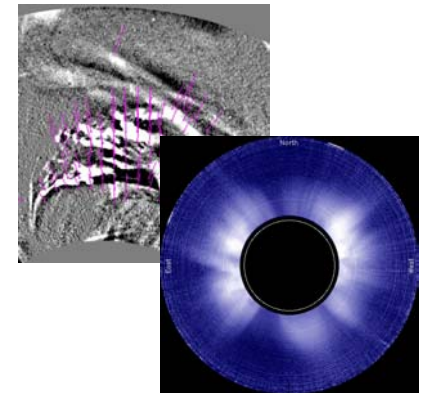
Data Compression: Hyperspectral and stereo compression techniques, autonomous feature recognition software, buffer management software, and methods for extracting feature movement on planetary surfaces to make more effective use of the spacecraft-to-ground link

Onboard Feature Extraction: Software for creating volumetric representations of 3D features in order to produce 3D visualizations of downlinked geologic features

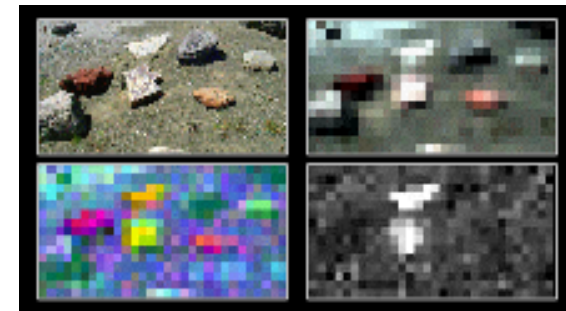
Content-based Image Retrieval: Software for tracking movement of dynamic features suitable for both onboard and ground-based use and software for automatically identifying features of interest across large databases of planetary images



3D Modeling & Compression of Geologic Features



Automatic Tracking of Dynamic Features



Hyperspectral Image Compression

